

# THE SCHOOL JOURNAL

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The business department of THE JOURNAL is on page 326.

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AMONG the parts of the educational machinery that are to receive attention, the teachers' institute is certain to have its turn. The teacher in general who attends the average institute has not been able to estimate what the net result might be, but a class is coming on the stage and is in fact now on the stage in some of the states, that demand more than has been ordinarily measured out to them. As in the case of many of our institutions, there is a heavy weight of the past on the institute.

The new movement is an effort to bring the pupil-teacher, by study, into a relationship with education in its scientific aspects. It proposes that the teacher shall have a course of study marked out on informational and professional lines; that the institute become a school and not a lecture-hall—except in part. This would require that a suitable text-book be adopted, and lessons marked out beforehand—say two months before the meeting; that the teachers meet in classes—the third grade by themselves, and similarly the second and first grades. Then definite questions should be asked in the history, principles, methods, and civics of education and intelligent answers be made.

All this is to set the teacher to thinking upon and investigating education as he is teaching; then he comes to the institute with some educational knowledge, as a basis for discussion. The pouring in is neither suited for the school-room nor the institute hall. The teacher must have lessons to learn and lessons to recite—of the right kind and in the right way of course. In short the institute is to be a normal school where the pupils are teachers in the field, but who have lessons to learn and who meet twice, thrice, four times, possibly eight times, a year.

The decision last year by Speaker Reed of the House of Representatives that, if a quorum were present, even though they did not all vote, a bill might be legally passed, has been upheld by the supreme court of the United States. This decision was made because Democratic opponents to a bill would cry out, "Refuse to vote," thus trying to prevent legislation.

This year the Democrats are in power and new rules have been made for the House; there is a committee on rules and this committee is empowered "to report at any time." A short time ago the committee asked leave to report before the journal had been read. Speaker Crisp gave permission and the report was made, and then the journal was read. It has been supposed heretofore that the journal must be read before any business could be transacted. These two decisions will attract wide attention for those who watch the proceedings of Congress.

Circulars of summer schools begin to gather on the editor's desk. They wear the conventional look, but are scanned with fresh interest and bring anticipations of "good times," and pleasant meetings between the lines of the well-filled programs. How do the thousands of teachers all over the country regard them? Are they hailed with interest or passed over with indifference? The anxiety over the year's work is beginning to culminate in the prospective June examinations and promotions. It is an absorbing time to settle an individual matter like the attendance upon a summer school. But this is just the time the question ought to be settled, before the languor of warm weather, and the increase of examination feverishness makes it impossible to think clearly and perhaps wisely.

The teacher who drops wearily down after the close of school caring for nothing but rest and quiet, is heartily sympathized with in her needs for this rest and recuperation; but is this the best way to get either? Mental brooding will be almost sure to follow with the conscientious teacher, and the perplexities and the shortcomings of the year will be lived over again and again, till they are magnified out of all proportion to their reality. Don't do this, teachers.

Let some part of the vacation be passed in meeting other teachers, and keeping in touch with the spirit of progressiveness that actuates the larger part of the attendants upon summer associations and summer schools. In this way only can teachers gauge their own standing in the professional line. Stepping round and round in one's own little circle year after year, is as stultifying to one's professional and mental growth as it is to the onward and upward progress that must be made in the attainment of the highest success.

We have just had our annual excitement over the seal question. When it was learned that the treaty for arbitration had been duly signed a sigh of relief was breathed, for it was believed that that would end the matter. But no; Lord Salisbury declared that he would not renew the *modus vivendi* (close season) of last year. He was willing to make a closed zone around the Pribilof islands, but would not consent to hinder seal-killing outside the three-mile limit. On the part of the United States it was asserted that this would not do. Such a restrictive line around islands hidden half the year by fogs is impracticable. Furthermore, the female seals range from one hundred to two hundred miles from the islands, where, under this arrangement, they would fall victims to the Canadian sealers; so that when the time for arbitration came there would be none of them left. Considerable war talk ensued, as there was evidently those on both sides who wanted to make the most of the situation. All such talk, however, is nonsense; the two greatest English-speaking nations cannot afford to go to war. It was lately announced that Lord Salisbury's answer had been received, but its contents have not been made public.

## Studies in the History of Education. II.

## HOW PESTALOZZI TAUGHT ABSTRACT IDEAS.

By J. A. REINHART, Ph. D., Paterson, N. J.

"And what is the method? It is a method which follows the path of Nature, or in other words, which (1) leads the child slowly, and (2) by his own efforts, (3) from sense-impressions to abstract ideas."

## COMMENTARY.

*The Psychological Question Involved.*—In the previous account of Pestalozzi's method of teaching in the school at Burgdorf, canton of Bern, Switzerland, in the year 1800 (See THE SCHOOL JOURNAL of Feb. 20, page 183), it is assumed that either in infancy, or childhood, or youth, in one or all of these periods of child-life—there is a phase of inner experience which may be characterized as the passing from sense-impressions to abstract ideas. That is to say, there is a process of mental elaboration, the result of which, in the mind of the child, is the formation and possession of such notions as answer to the words, "tree," "volcano," "climate." In other words there is a special kind of mental activity, having for its product, not individual percepts, ideas, or images but abstract ideas, *i. e.*, general notions.

*The Teaching Problem Involved.*—What are the facts—the school-room facts—in this matter? It is a fact that this passage from sense-impressions to abstract ideas goes on in (1) infancy, in (2) childhood and in (3) youth. "From intuition to notion"—this is principle and law of learning in every subject. It is a fact that children acquire such ideas as, "volcano," "desk," "beautiful," "cunning;" these terms are general in their nature, that is, applicable to a whole class of individual things; and that the formation of such notions is the most important matter in the child's mental history. The failure to master the exact meaning of general names, for example, "prime number," "predicate," "climate," "quadruped," "sincere," "spherical," is no less a calamity to the child than a disgrace to the teacher. Teachers are doubtless to a large extent responsible for inaccuracy in distinctness, and slovenliness in the use of general names by their pupils. They have not trained their pupils to the full and exact content of the general notions signified by the abstract terms which occur on every page of reading book, arithmetic, and geography.

How then shall the teacher proceed in this matter? What is required, first, and what are in order in the subsequent steps?"

First, the teacher must remember that no child *naturally* rests in sense-impressions, but goes on into higher forms of mental activity. In general, each sense-impression is but the starting point of imagination and thought. The child immediately begins to think and reason upon it. For example, suppose a child for the first time sees an ellipse. Does any one suppose that the child rests there, that he does not almost immediately recall the circles he has seen, and proceed to compare ellipses and circles? Therefore, *no child should be permitted to rest in sense-impressions.* It is true that sense-impressions are the raw materials of knowledge; but this raw-material must be *elaborated*, must be worked over, and *wrought into concepts.* For example, out of many sense-impressions of dog, cat, horse, etc., must be elaborated the notion, "quadruped;" out of many sense-impressions of leaves must be worked out the notions of "net-veined," "parallel-veined;" out of many individual experiences of heat, cold, moisture, and wind, must be elaborated the notion of "climate."

Thus the general duty of the teacher, in this particular case, may be defined as *the right treatment of sense-impressions, with a view to the formation of general notions.*

*Secondly.* The teacher's main reliance must be on the (1) method of *comparison*, and he will insure these acts of comparison on the part of the pupil through the (2) acts of *questioning.* The fundamental element, he must remember, in all reasoning is comparison. His questions will make his pupils compare and reason upon his sense-impressions and thus end in clear notions. For example,

of a triangle, a square, and a rectangle, he may ask: "Which of these are bounded by lines?" "Which of them by *four* lines, which by *three*?" "In what respects are all these figures alike?" "In what way are the square and rectangle *exactly alike*?" "In what respects are they different?" "How long can a square be?" "How long can an oblong be?"

*Thirdly.* The main part of the teacher's duty is to *superintend the comparison and revision of notions*; for the language—the perfected language of the family, school, and community into which the child is born, imposes upon the child innumerable general names, and to fill these names with their proper content—perfected notions—is the great task of the instructor. And no matter what be the grade of the teacher, whether middle primary, or upper grammar, his pupils already possess abstract ideas or general notions of some sort, and the chief thing is to deepen and revise them. For example, the pupils' notion of prime number may be that it is necessarily odd, and that all odd numbers are always prime.

This latter element must be eliminated from his conception. He must be asked to compare 21 with 42, as to its divisibility by seven; to compare 21 with 11, as to its being divisible by any number other than one and itself. Or, the pupil's conception of greatest common divisor may be confused with that of least common multiple, and the sharp discrimination of these notions must be insisted upon. Additional examples under this head would be, the necessary comparison of the notions, "capital" and "capitol," "expedient" and "right," "congress" and "legislature," "root" and "power," "cunning" and "wisdom." All such notions should be compared and studied in their application to individuals.

*Fourthly.* The teacher should understand *combination* as an element in concept formation. For example, it is evident that the notions "war-ship," "air-ship," "civil war," "main-spring," are simple combinations of other notions. Sometimes the combination is elaborate. Thus "volcano" is built up out of sense-impressions, fire, heat, steam, smoke, elevated land, rock, ashes, molten material, etc. Still more complex are such notions as "colonial-administration," "climax," "sonnet," "electoral-college," "university."

This is the end of the matter. The teacher stands in a constructive and critical attitude, superintending the pupils' passing from sense-impressions to abstract ideas. He mediates between the child's first hand experiences and the general notions which make up all learning and culture. His special line of work, in this regard, is the adjustment and adaptation of sense materials to the formation of concepts. His aim is to secure clear and distinct general notions; his main dependence is the habit of comparison; his outward method is that of questioning; his largest work is the revision of notions; his chief constructive method is that of combination.

## Relation of Books to Pupils.

By ABBIE LOW, New York City.

The relation of books to pupils, and of pupils to books is the very pith of the educational scheme at the present day. It is the vital school question and upon this question hang all the others. The entire scope or plan of the school is embraced in it. By the disposition which is made of it, will the affairs of the school be regulated. It is the nature of this relationship which will determine whether the service of the schools shall be a service of training or a service of *cram*; whether the outcome of the school-work shall be the *strong mind* or the *stuffed mind*.

In the consideration of the subject by educators and others, the tendency is to place too much emphasis upon the supplying and placing of books, and to rate the books themselves too high in the relative estimate. By some, books are regarded as storage batteries from which the teacher has only to conduct the current and in the twinkling of an eye the pupil is supplied with motive power. It were better, if a figure must be borrowed

from science, to consider the teacher a magnet, capable of imparting magnetic properties to her pupils. Each then becomes an independent magnet so charged as to attract to himself only the tempered steel of literature. While a liberal provision of books for the schools is most worthy and commendable, and the necessity for careful selection and proper placing of books is beyond question, the fact must not be overlooked that these are matters of but secondary importance.

First of all, there must be on the part of the pupil a felt want for books, and this want in three-fourths of the pupils must be created—somewhere and somehow. The ostensible office of the school is to promote healthful mental growth. The mind grows by that which it feeds upon. Good intellectual food is an absolute necessity. It is not enough that such food be wholesome and nourishing, appetizing and tempting, and abundant,—it must be partaken of and relished as well, if it is to be depended upon to prevent starvation.

The character and quality and supply of this food are matters that enter largely into the question of education—nevertheless, they do not constitute the question.

Appetite,—demand,—relish, are primary considerations;—considerations which involve the most eminent and arduous work of the teacher. What matters it how rich the feast that is spread, or how tempting the display of the viands, if the desire for refreshment be wanting? The conserving and cultivating, and, if necessary, creating of mental appetite in pupils is the high office of the teacher, and success in the doing of this will sooner than anything else determine the degree and kind of relationship which shall exist between the public library and the school.

Thinking is the mode of mental digestion. Only that part of mental food which is assimilated by the mind will afford nourishment or produce mental fiber.

The question then merges into another one,—far more difficult of solution than the first, namely: What manner of culture will render the mental appetite keen, discriminating, and wholesome, and what is the best promoter of mental digestion? Proper mental food and judicious mental exercise are as essential in the building up of mental tissue as are physical food and physical exercise in the building up of the physical tissues.

Attention to the mental diet of a school is the first step toward the regulating of the mental appetite. Every teacher who is a good caterer knows this, and deploras the fate of the little ones confined for subsistence to the meager and often repulsive allowance prescribed by school boards. Ordinary school fare, served plain, is poor fare. The husks of technical grammar moistened with the thin broth of the spelling-book, or sandwiched with the dry bones of arithmetic, too often form the staple. The books that are necessarily most constantly in the hands of the children—the arithmetic, the grammar, and the spelling-book—are not in themselves calculated to inspire a love for books, nor to create a longing for them.

God pity the children who "spend money (time) for that which is not bread, and labor for that which satisfieth not." It is no wonder that so many of them hurry away from school to watch the world go round. Books are companions. Good books are good companions, but thinking is the object to be attained. Books that make young people think, are the books that will make them grow. Blessed is the teacher who sends her pupils into the world hungering and thirsting after knowledge, and knowing when and how to seek it for themselves. Such a teacher is ever the librarian's best ally, and the school over which she presides is ever held in a near and dear relationship to the library. So every teacher through her pupils decides the question of the relation of the public library to her own school.

Truth crushed to earth shall rise again;  
The eternal years of God are hers;  
But Error, wounded, writhes with pain,  
And dies among its worshippers. —Bryant.

## N. Y. State Normal College.

The Albany State normal school after a successful career of forty-five years was made into an institution for doing advanced pedagogical work. The course of study covers two years and is as follows:

### ENGLISH COURSE.

#### FIRST YEAR. FIRST TERM.

Psychology. Philosophy of Education.  
Methods of teaching the following subjects:  
Number. Geography. Composition. Vocal Music.  
Arithmetic. Grammar. Reading.  
Daily discussion of Educational Themes.  
Essays upon Educational Subjects.  
Preparation for Devices for Teaching.

#### SECOND TERM.

Methods of teaching the following subjects:  
Algebra. Physics. Botany (Elementary). Object Lessons.  
Geometry. History. Zoology (Elementary). Civil Government.  
Drawing. Penmanship.  
Daily discussion of Educational Themes.  
Essays upon Educational Subjects.  
Preparation of Apparatus and Specimens.

#### SECOND YEAR. FIRST TERM.

Methods of teaching the following subjects:  
Chemistry. Book-keeping. Mineralogy. Rhetoric. Mensuration.  
Physical Geography. Geology. English Literature.  
Botany. Zoology. Physiology. Familiar Science. Astronomy.  
Daily discussion of Educational Themes.  
Essays upon Educational Subjects.  
Preparation of Apparatus and Specimens.

#### SECOND TERM.

School Economy. History of Education. Sanitary Science.  
Elocution. Kindergarten Methods. Physical Culture.  
School Law. Methods of Teaching Political Economy.  
Teaching in Model School.

Those who complete the above course successfully will receive a diploma, which will be a license to teach in the public schools of the state for life. No degree will be conferred upon graduates from this course.

The classical course of two years is like the English course except Latin is taken in the place of civil government, the first year; and Greek, or French or German, in the place of botany and familiar science the second year. There is then a supplementary course of one year:

#### FIRST TERM.

Carpenter, Mental Physiology. Bain, Mental Science.  
Shenck, Education. Bain, Education as a Science.  
Hickok, Moral Science. Rousseau, Emile.  
Compayre, Elements of Psychology. Radstock, Habit in Education.  
Frabel, The Education of Man. McArthur, Education in Relation to Manual Industry.  
Stanley, Life of Dr. Arnold. Fitch, Lectures on Teaching.  
Mahaffy, Old Greek Education.  
Discussion of Current Educational Themes.

#### SECOND TERM.

Guineth, Life of Pestalozzi. Bowen, Introduction to Psychological Science.  
Payne, Contributions to Educational Science.  
Brown on Art.  
Rosenkrantz, Philosophy of Education. Jevons' Principles of Science.  
Whewell, History of the Inductive Sciences.  
Winchell, Doctrine of Evolution. Quick, Educational Reformers.  
Hill, True order of Studies. Browning, History of Educational Theories.  
Parsons, Systems of Education. Rosmini, Method in Education.  
Kiernan, European Schools. Schools for Professional Training.  
School Supervision. Discussion of Current Educational Themes.  
A Thesis.

Graduates from the English course will receive the degree of Bachelor of Pedagogy upon their completing the supplementary course.

Graduates from the classical course will receive the degree of Master Pedagogy upon their completing the supplementary course.

#### A COURSE IN KINDERGARTEN.

Systematic instruction will be given upon the principles and philosophy of training which underlie the kindergarten system. Lessons on the care of children and on story-telling. Lessons in physical culture and kindergarten music and games. Lessons in botany and natural history. Instruction in free-hand drawing and in modeling will be given during the year.

A diploma will be given at the end of one year to those who complete the course satisfactorily.

William J. Milne, LL.D., is the president.

School necessarily limits the child's life; you cannot bring all creation into the four walls of the classroom. But what you lose in extent you gain in depth; you lose variety, you gain in concentration. Before school time all things engage the child's attention in turns, and nothing long. At school he has to attend to a few things, and to keep his attention fixed upon them for short periods at first, but for increasingly longer ones. It is a matter of practice and experience to find out what things most readily arrest attention and in what way information can best be conveyed so as to arrest attention.—"A POT OF GREEN FEATHERS."

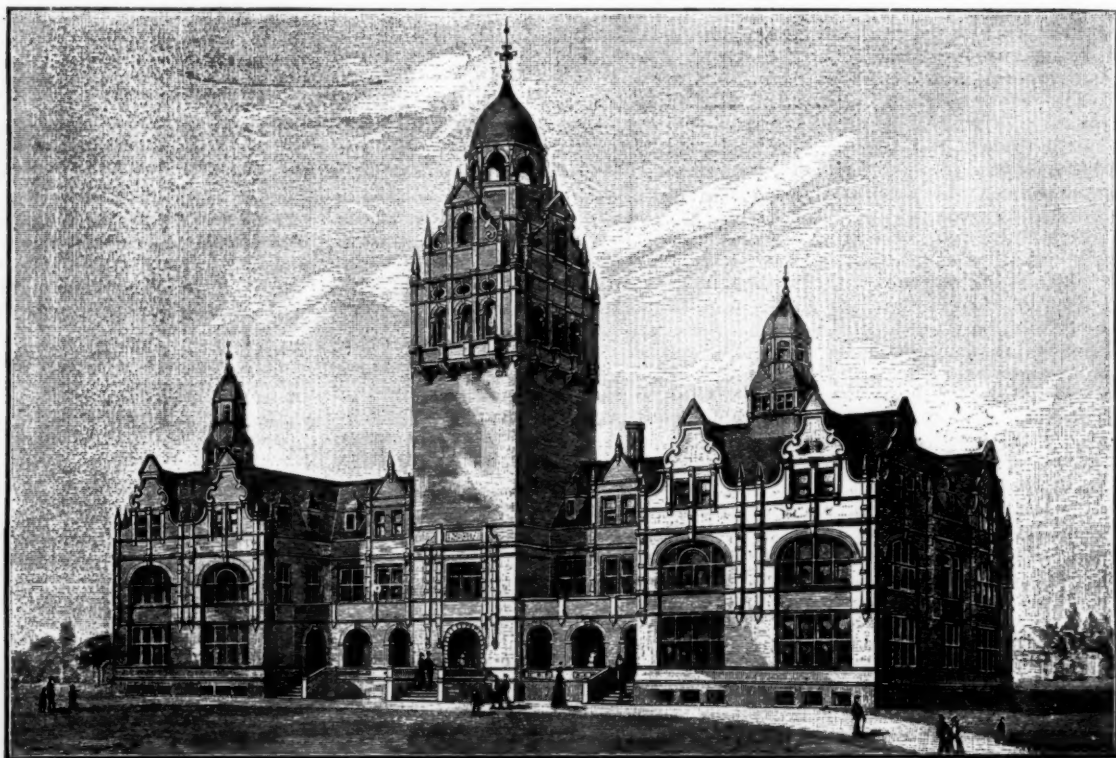


## The Aim of the School.

It is really one of the things that staggers one in reading history to see the readiness with which a man was crucified, hung, burned, decapitated, or imprisoned for not having the same opinions as another man as to the cut of Gabriel's garments. It seems that it was thought better a man should be out of the world if he had a wrong opinion, than in it. It was once supposed to be due to the evil nature of the boy that he crept unwillingly to school, that he preferred to hunt birds' eggs rather than learn long lists of words without meaning to him; this was attributed to an inherited tendency from Adam to do wickedly even when the right was so plainly more beneficial. After experimenting some six thousand years, people have come to the conclusion that children will be born with just such tendencies in the future as they have in the past; and they have spent days in wondering how the race being born with such early tendencies downward ever contrived to turn out even half so well, and finally, they began to speculate whether these determinations of children to be pleased with the

outer world rather than with the words, words, words the cross-looking teacher put before them were not precious educational forces to be fostered and not repulsed.

The school, what shall it be? What shall it aim at? Before answering that, let the conduct of a genial and learned minister be given. He entered the pulpit, placed his sermon before him and read it through with his hands at his side and his eyes on the manuscript. His congregation dwindled, as one might suppose, and he left, traveled, returning after two years to be invited to preach again. Now he was all animation; he was eloquent. He explained the case by saying, "I used to think religion was so important that it was a man's duty to be interested in it; now I think it is so important, that I make it my effort to do all I can to interest men in it. The school is a place where the educative efforts of the child (implanted in him by the Creator) shall be fostered. No man can take an acorn and by watering it cause it to become a maple tree; there are existing in the acorn powers that can be fostered and that is all that can be said about it. He is a wise man that fosters those powers and does not hinder their growth.



HIGH SCHOOL BUILDING, TORONTO, CANADA.

This cut represents the new high school building at Toronto. It is a handsome structure, 200 feet in length by 100 feet in depth. The general appearance of the institute is symmetrical, the main facade having a fine center tower rising 146 feet high, crowned with a cupola. On each side of the tower are the equally balanced main wings of the building, having groups of gables of excellent design. There are two principal floors, and a basement under the whole school. The main entrance is under the center tower and leads to a spacious hall. Corridors on each floor eight feet wide run east and west from the hall the whole length of building, terminating on the ground floor at the east and west scholars' entrances. From each side of these corridors the classrooms are reached. They are large, well-lighted rooms, eight on the ground floor and six on the upper floor. Adjacent to the entrance hall are two staircases leading to the upper floor, and they land respectively near the east and west entrances to the assembly room, a spacious, lofty room, 57 feet long by 50 feet wide and 26 feet high. On the ground floor under the assembly

room are two lecture class-rooms 40 feet by 25 feet. The science rooms are situated at the east end of ground floor, and comprise physical laboratory and lecture class-room, chemical laboratory and lecture class-room, an apparatus room 38 feet by 22 feet, and a workshop in basement. These rooms will be replete with every modern teaching appliance. In the basement are commodious lunch rooms and lavatories. On the other floors are principal and teachers' rooms, library, cloak rooms, visitors' reception room, etc.

To the rear of the main building is the gymnasium, divided for male and female scholars and approached by a glazed and covered corridor. There is also a lodge for the caretaker. Among the most important desiderata of a collegiate building are the heating and ventilating arrangements and the system adopted in this building is the Smead-Dowd Company's, and is guaranteed to give the best results.

The architects from whose designs and under whose superintendence the building has been erected are Messrs. Knox & Elliot.

## The School Room.

MARCH 26.—NUMBER AND PEOPLE.  
APRIL 2.—PRIMARY.  
APRIL 9.—LANGUAGE AND THINGS.  
APRIL 16.—EARTH AND SELF.

### Tales from American History.

By JOSEPHINE SIMPSON, Jersey City, N. J.

#### SAILORS THREE.

For more than a century after Columbus tried to find some strait that would lead him into the Pacific direct from the Atlantic ocean, we read of men from different countries in Europe chasing up and down the eastern coast of the new world trying to find the same thing. They sailed up the Hudson and the St. Lawrence, while more than one narrowly escaped being crushed to death amid the ice-drifts of the far north.

MARTIN FROBISHER.

A bold English sailor, Martin Frobisher, on his way to China by the northwest, was compelled to put back on account of the ice. He found on this voyage, however, something he considered gold; so he was soon ready to make another trip, on which he brought back a shipload of some worthless yellow ore, called by the name of "fool's gold" after that.

About this time the Spanish, who had been quarreling with England, more or less, for years, came sailing up the Atlantic into the English channel, the very gate of England, with a most wonderful fleet that they had been preparing for years to fight the English. Then the brave English sailors with their swift little barks, by no means so fine or so large as the Spaniards', made ready to meet the dread enemy. Hawkins, Frobisher, and Drake were perhaps the foremost in this fight. It became the duty of these leaders to protect the homes of England from the bold intruders who had threatened the nation so long, and bravely did all hands rally to the support of their lion-hearted Queen Bess. These quick-witted sailors filled their little vessels with stuff easy to set afire; then at night they started them burning and steered right into the midst of the Spanish ships. Darting here and there like fireflies, working any amount of mischief, they were off out of the way before the awkward Spanish galleons could turn upon them. Well, this strange manner of fighting together with a terrific storm that arose, wrecking a number of the Spanish vessels, soon finished up matters. Those Spanish vessels that escaped either danger were now glad enough to hasten back home again.

To-day England is called the "Mistress of the Seas." These gallant sailors just mentioned with their brave-hearted crews laid the foundation to England's great power at sea. Can you wonder then that good Queen Bess delighted to have them about her and to honor them before all men?

SIR FRANCIS DRAKE.

No bolder sailor than Francis Drake ever trod the deck of vessel, but truth compels one to state that he had not a proper regard for other folks' property on the high seas. He would lie in wait for Spanish vessels on their way home laden with treasure from the gold lands of the new world, and plunder them every time he got the chance; so, in plain English, he was neither more nor less than a daring and successful pirate. I could not stop to tell you of his many sea-fights or adventurous voyages, but let me say a few words concerning his most noted journey, perhaps. It was about ten years before the time when the Spaniards attempted to punish bold little England, as related above, and the latter turned the tables so thoroughly upon her unwelcome visitors. Drake started out with a fleet of five vessels. He sailed across the Atlantic, then up the Pacific coast of America, where he had never yet been; always keeping a sharp look out for a stray Spanish vessel to plunder. This time he stopped at some Spanish settlements as well, and took a short rest in a fine harbor he found—now San Francisco. The natives here liked him so well they crowned him king, but of course on dry land he could not rest, so he was soon off again. Fearing there might be some Spanish vessels waiting for him with his ill-gotten plunder at Magellan's strait, he boldly steered across the Pacific, rounded Cape of Good Hope, so up the Atlantic home. He had sailed round the globe, after having been gone several years, and had made himself famous thereby. He gave a grand banquet on his ship at Plymouth, which the queen herself honored by her presence and graciously consented to accept a share of the prizes he had captured. On a later trip Drake fell ill of a disease that had broken out on his vessel, and died. His burial place was the deep blue sea he had ever loved so dearly.

SIR HUMPHREY GILBERT.

Gilbert was not so reckless a man as Drake, nor did he go sailing for the same reasons.

He and his stepbrother, Sir Walter Raleigh, tried soldiers of gracious Queen Bess, and favorites too, received her gracious majesty's permission to make a settlement in the new world. The queen sent to Gilbert her best wishes for success with a little golden token, but would not permit Raleigh to go, so it is said. She allowed Raleigh, however, to contribute a large sum towards expenses. In due time Gilbert reached Newfoundland, which he took possession of in the name of his queen; for even then fishing vessels came each year from France, Spain, and Portugal. Gilbert's stock of provisions soon grew low and cold weather was coming on; so when the people begged their captain to return to England before they all should perish, Gilbert, sorely against his own wishes, but ever considerate for others, decided to return home. The two little vessels soon encountered foul weather and terrible seas. One afternoon when the general's, that is Gilbert's, vessel had shipped a heavy sea, and was thought to have been swallowed up by the great wave, it came up again and Gilbert was seen with a book in his hand. More than once when the vessels were close together, he was heard to call out: "We are as near to heaven by sea as by land. That same night the lights of Gilbert's vessel, suddenly disappeared. The ship had gone down. So perished the brave and goodly knight, Sir Humphrey Gilbert.

### To 10,000 in a Year.

SUPERINTENDENT GREENWOOD ANSWERED.

Editor of THE SCHOOL JOURNAL:

I trust that Supt. Greenwood does not expect us to accept as argument the statements he has made regarding the teaching of arithmetic in the Kansas City schools, for though such statements are very interesting and valuable as indicating what *can* be done, they do not assist us to any great extent in determining what *should* be done. What is possible and what is right and proper are by no means identical. I am acquainted with a child who at five years of age could name all the bones of his hand and arm even to the tiniest bone of his little finger. I also know children of eight and nine years of age who have committed to memory all the definitions of grammar and geography, and who can name all the English sovereigns from Alfred the Great to Queen Victoria. The fact that children *can* do this, is no proof that they *should* do it. No one will deny that in acquiring such knowledge pupils put forth a certain kind and amount of mental activity, but that it is appropriate activity, awakened in the right way, even Mr. Greenwood will not insist. All that is possible is not wise. As I pointed out in my last communication, there are a dozen lines of activity which pupils may follow during the first year of school life. It rests with the educator to determine which of these is correct.

Supt. Greenwood is battling for a great principle when he insists that pupils shall always have something to do in school. Baby-work for boys and girls is most objectionable. There is no doubt but that "skim-milk" teaching is one of "the abominations of the modern school-room." And while I heartily agree with him in his demand for sufficient activity, I still look forward to the day when following his own advice "he will take a few well-directed steps forward into the clear sunlight of reason, common-sense, and child-life activity," and recognize that activity must not only be sufficient but in natural lines. In order that a pupil shall put forth mental effort I am not aware that it is necessary to convert him into a calculating-machine. Arising out of the study of number, there are forms of activity apart from that put forth in calculating. It is quite possible to take too narrow a view of the aim and value of the study of arithmetic. It is possible to forget the child in our anxiety to make him familiar with the subject.

A little consideration will convince anyone that all the difficulties of arithmetic, except that of calculation, are met with in dealing with numbers below 100. My sole contention is that during the first two years of school life we should leave calculation of large numbers alone, and endeavor to teach pupils how to overcome some of these other difficulties. I can but agree with the statement that much "nonsensical stuff" is taught in the name of the "Grube Method," but I know from experience that there is enough wrapped up in the first 100 numbers to give rise to activity that is not stupefying, but such as pupils delight in, for at least two years of school life. Consider, for example, the activity that is exercised in interpreting simple problems, in perceiving relations between numbers, or in expressing ideas through making and solving problems.

Ten or twelve years ago, we were where Mr. Greenwood is today. As a result of our teaching we found that the pupils disliked their work, as such; that on reaching the higher standards they lose to a great extent their power to calculate rapidly and accurately; that they were unable to solve problems, and to express themselves in proper form, not having had sufficient practice in the lower grades; that they had false notions of their abilities, thinking that the good arithmetician was but a "ready reckoner."



By adopting a system more in accordance with the laws of good teaching we find that the pupils are happy in their work because they are always *intelligently* active, and because the form of activity is constantly changing; that on reaching the higher classes they have but little difficulty in the solution of problems; that they calculate as readily at the end of the fourth year as did pupils who had studied numbers up to 10,000 from the beginning.

In conclusion allow me to say that the reason the lower grade pupils in the Toronto schools read better than other children, is, not because they learn to spell and pronounce a much larger list of words than other children, but because they are taught according to a system that compels them to put forth constant and ever-changing activity. Their superiority lies not in that they *know* more than other pupils, but in that they have more *power*. If they are at all like the pupils of the schools of this city who are taught practically in the same way and who do as much, if not more work, it will be found that they recognize at sight but comparatively few words, but knowing the phonic elements and how to combine them, they are able for themselves to discover the sound of almost any printed form. They learn the values of the letters in a very short time; the work that they do in word-discovery is but an application of their knowledge of these values. So in number work. It is but a little thing to teach the combinations and separation of numbers up to 10. Real activity of mind begins and continues as the pupils endeavor to apply this knowledge in making and solving problems.

MANITOBA.

### Plant Life. III.

By MARA L. PRATT, Malden, Mass.

#### THE SEED AGAIN.

Do not be afraid of spending too much time on the seed period of plant life. In many large seeds (the bean a common illustration) the little plantlet, with its plumule and radicle lying there in embryo, is plainly to be seen. While you are waiting for the seeds you and your pupils have planted "to sprout," do not be afraid—more than that, do not *omit*—to soak over night seeds for the morning's study; different kinds of seeds, beans, peas, pumpkin seeds, morning glory seeds. Pull up, too, each morning one of the seeds—the same plant that you have planted, noting thus each day's growth and unfolding.

*Unfolding* is a far better word to use; and it is far higher teaching to open up to the pupil that the plant does merely *unfold*, that at its very beginning there are in the tiny plantlet *all the organs* that, as a large plant, it will ever have. This keeps, too, the analogy of plant-life and child-life. The child in the cradle has no organs more nor less than when he is full grown. You have, too, the opportunity here to encourage the dull pupil with that optimistic theory that in every mind lies the *possibility* for all development. It is a mere question of unfolding. Perhaps A's mind has unfolded more slowly than B's. Perhaps A's surroundings have not been so encouraging. Even the violet will unfold very slowly if moisture and warmth and sunlight are lacking. But all the organs are there, and it will unfold slowly, but surely, if only there is courage and perseverance. Does this sound preachy? It need not be; and I know more than one lazy child, more than one discouraged child who has been spurred on to action and to hope under the simple analogy. Besides that you *do* establish in the child by that thought a dawning sense of oneness between life and life—a sort of "higher pantheism," that some time, when he is older will itself unfold, and be an influence for good in him.

But to return to the facts of the seed. In our last lesson we spoke of the plumule and the radicle.

As the seeds are pulled up from day to day, close following upon the signs of sprouting will be the appearance of the seed leaves, or the cotyledons. Do not teach them *till they come*. These are thick, clumsy looking little bodies, pushing out on each side of the plumule. (Fig. 1.)

In the bean it is these cotyledons, so thick and pulpy, that fill up the shiny shell; it is, in fact, the bean we eat. In the cherry and almond, etc., it is the same. So in some nuts it is these seed-leaves that we eat.

Now, if you have been wise enough and fortunate enough to have planted seeds of both mono and di-



(Fig. 1.)



(Fig. 2.)



(Fig. 3.)



(Fig. 4.)



(Fig. 5.)

Soon after the plumule and seed leaves are plainly separated, the plumule pushes up and develops *one or two* leaves. If two leaves, then so long as the plant lives and grows, it will be two leaves at a time thrown out. Thus we get opposite leaves. (Fig. 4.) Or, if it throws out one leaf, then so long as the plant lives and grows it will be one leaf at a time thrown out. Thus we get alternate leaves. (Fig. 5.)

By and by there may or may not come a time of branching. If the plant does branch, then the branches will be arranged as are its leaves always either alternate or opposite.

Later still, the branches may re-branch. If so, then these branchlets, too, will follow the first plan of the earliest leaves whichever they were—alternate or opposite, so will the branchlets, the twigs, and even the twiglets.

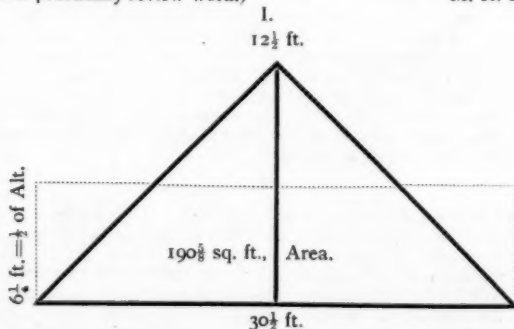
### Children's Work, Springfield, Mass.

#### Hooker School.

##### MENSURATION.

(These subjects have been taught in the lower grades, so that this is practically review work.)

M. R. D.



Grade VIII. WILLIAM C. LOONEY, age 13 yrs.  
Find the area of a triangle the base of which is 30 ft. 6 in. and the altitude 12 ft. 6 in.

Base 30 ft. 6 in.

Alt. 12 ft. 6 in.

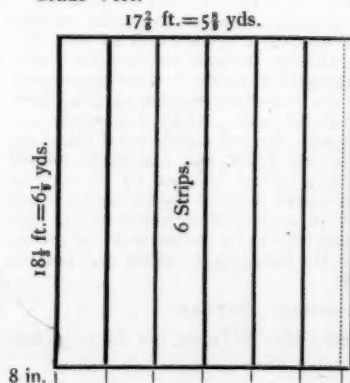
1/2 of Alt. = 6 1/4 ft.

6 1/4 × 30 1/2 = 190 3/8 ft. Area of the triangle.

## II.

Grade VIII.

AMELIA E. HAUSMAN.



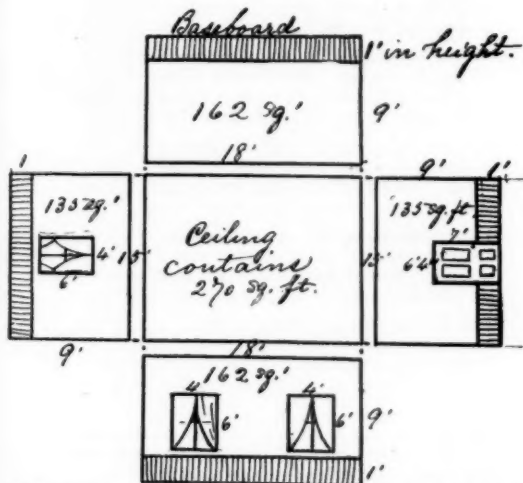
How many yards of carpeting 1 yard wide will be required for a room 18' 4" × 17' 8", if the strips run lengthwise of the room, and if there is a waste of 8 in. a strip in matching the pattern? Find the cost of carpeting the room if the carpet is worth 85 cents a yard, and 10 cents a yard is paid for making and laying. 18 1/2 ft. = length of room. 17 1/2 ft. = width of room

8 inches on each strip = waste.  
1 yard = width of carpet.  
Required cost of carpet at \$.95 per yd.

6 = No of Strips.

$6\frac{1}{2}$  yds.  $\times$  6 strips =  $36\frac{1}{2}$  yards.  
 $\frac{2}{3}$  yds.  $\times$  6 strips =  $1\frac{1}{3}$  yds. = entire waste.  
 $36\frac{1}{2}$  yds. +  $1\frac{1}{3}$  yds. = 38 yds. required.  
\$.85 cost a yd.  $\times$  \$.10 for laying = \$.95 a yd.  
38 yds.  $\times$  \$.95 = \$36.10 = cost of carpet.

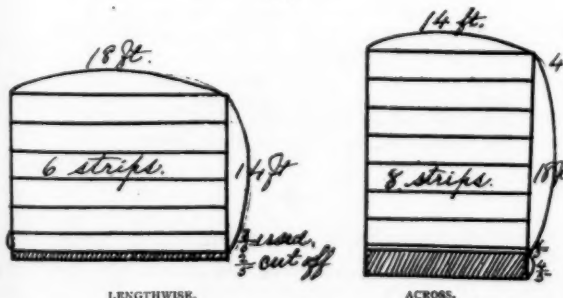
III.



Find the cost of plastering a room  $18' \times 15' \times 10'$ , at 30 cents per square yard, if the room contains one door  $7' 6'' \times 4'$ , three windows each  $6' \times 4'$ , and a baseboard one foot high around the room.

$18' \times 15' \times 10'$  = dimension of room.  
1 door  $7' \times 6' 4''$  to deduct.  
3 windows  $6' \times 4'$  to deduct.  
Baseboard 1' high.  
Required the cost at 30 cents per sq. yard.  
 $18' \times 15' = 270$  sq. ft. ceiling.  
 $15' \times 9' \times 2 = 270$  sq. ft. in 2 walls.  
 $18' \times 9' \times 2 = 324$  sq. ft. in 2 walls.  
 $270 + 270 + 324 = 864$  sq. ft. in room.  
 $6' \times 4' \times 3 = 72 =$  sq. ft. windows.  
 $7\frac{1}{2} \times 4 = 30 + 72 = 102 \div 2 = 51$  sq. ft. =  $\frac{1}{2}$  of area of doors and windows.  
 $864 - 51 = 813$  sq. ft.  $\div 9 = 91$  sq. yds. in room.  
 $91 \times 30$  cts. = \$27.30 cost of plastering.

IV.



Grade VIII. JENNIE O. TARBOX.  
Find the cost of carpet 30 inches wide, at \$1.25 per yard, for a room  $18$  ft.  $\times$   $14$  ft. if the strips run lengthwise. If the strips run across the room.

30 in. = width of carpeting.  
18 ft. = length of room.  
14 ft. = width of room.  
\$1.25 = cost per yard of carpeting.  
Required the cost. Strips running lengthwise of the room and across it.

Lengthwise.

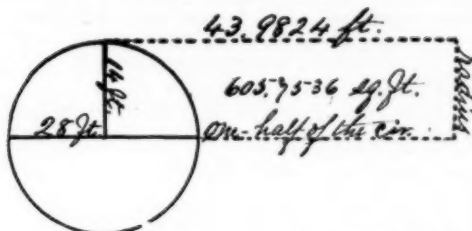
30 in. =  $2\frac{1}{2}$  ft. width of carpeting.  
 $14$  ft.  $\div 2\frac{1}{2}$  ft. =  $5\frac{2}{5}$  or 6 strips used.  
 $6 \times 18 = 108$  ft.  $\div 3 = 36$  yards in carpet.  
 $36 \times \$1.25 = \$45.00 =$  cost of carpet when the strips run lengthwise of the room.

Across the Room.

$18$  ft.  $\div 2\frac{1}{2}$  ft. =  $7\frac{1}{5}$  or 8 strips used.

$8$  ft.  $\times$   $14$  ft. =  $112$  ft.  $\div 3 = 37\frac{1}{3}$  yds.  
 $37\frac{1}{3} \times \$1.25 = \$46.66\frac{2}{3}$  cost of carpet.

V.



Grade VIII.

ARTHUR G. FERGUSON.

Required the area of a circle whose radius is 14 ft.

Radius = 14 ft.

$28 \times 3.1416 = 87.9648$  ft. = circumference.

$\frac{1}{2}$  of  $87.9648 = 43.9824$  ft. =  $\frac{1}{2}$  circumference.

$43.9828 \times 14 = 605.7536$  sq. ft., area of circle.

## Supplementary.

"Grit."

(For a Boy's Declamation.)

By RANDALL N. SAUNDERS, Claverack, N. Y.

"Grit," they called him; of course, he had another name. He was only six years old when he first went to school, but then he was an earnest, pale-faced little chap who took hold of his lessons as though he meant to win in spite of his puny looks. He was not as strong as most boys of his age, but he always took a "stump" even to do things he knew he could not, and "Do your level best" was written all over him in every look and move.

One day he was running a race with an older boy and had almost reached the goal, when the boy caught the left sleeve of Grit's jacket, causing him to trip and fall in a way to break his right leg.

Varied feelings strove for mastery in Grit's mind, but his strong point ruled, and as he was carried away, he smiled with the air of a dying hero, as he dashed the tears from his eyes and shouted back, "I beat 'im anyway."

When the doctor came to set his leg Grit shut his teeth down hard and never flinched or made one cry. "It had to be done," was all he said.

Grit kept his name through life, and as he chose to be an engineer, his high sense of duty, and his natural courage, soon won him a position on one of the fast trains of a great railroad.

It was a dark night, and after a careful examination of his engine, Grit climbed into the cab and opened the throttle. He knew the mettle of his iron steed, and as he was a trifle behind time he urged her into a faster gait when once the sleeping city had been left behind.

All went well; the big drivers spun round and round, and there in the cab sat Grit with his thoughts fixed on the lives of those in the train behind, and his eyes intently fixed on the two glittering rails that stretched away ahead into the shadows beyond the headlight, as on—on—on into the night they dashed.

The long run was drawing to a close; only a few more miles remained, when, rounding a sharp curve, Grit beheld to his horror the red lights of a through freight train standing on his track. Thoughtless of himself he shouted to his fireman to jump, and had just time to whistle for "brakes and "reverse" when the crash came.

The grateful passengers crowded around the demolished engine and bowed their heads as they felt the grandeur of his sacrifice. "It had to be done," was stamped in the calm, fixed sternness of purpose, in his pale, dead face; and in the firm grip of his hand upon the broken lever, and strong men wept when they knew he could have jumped, and saved himself but had given his life for them instead.

## Famous Sayings and Who Said Them.

(The teacher may make use of the following sayings and similar ones to teach history and arouse patriotism if the circumstances under which they were said are recalled. For instance, the words, "We have met the enemy and they are ours," might be followed by a short account of Perry's famous victory. Many other suggestive quotations will no doubt occur to the teacher.)

I am not a Virginian but an American.

I only regret that I have but one life to lose for my country.

If you would give us ten thousand guineas you should not stir one step.

With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, etc.

There go a few millions!

War be it then. Millions for defence, but not a cent for tribute. I intend to fight it out on this line, if it takes all summer.

"Shoot if you must, this old gray head,  
But spare your country's flag," she said.

We have met the enemy and they are ours.

Sink or swim, live or die, survive or perish, I give my hand and heart to this vote.

I came, I saw, I conquered.

England expects every man to do his duty.

Don't give up the ship.

Forty centuries are looking down upon you.

I would rather be right than be president.

Let us have peace.

Liberty and union, now and forever, one and inseparable.

Give me liberty or give me death.

First in war, first in peace, and first in the hearts of his countrymen.

This is the last of earth. I am content.

After me the deluge.

Friend, thy necessity is greater than mine.



## Home Study.

By RUTH DAVENPORT, Boston, Mass.  
(Family supposed to be in an adjoining room.)

Oh, dear! four pages of history to recite in *our own words*! I told Miss Blakemore that I *could not* get such a lesson and she only said: "Well, you must give at least two hours faithful study to it." It is eight o'clock now, and that will make it ten before I can stop studying, and I ought to go to bed *early*. It was twelve o'clock last night when we got home from the party, and I mean to coax papa to take me to the opera to-morrow night. This studying evenings *tires me to death*. "Why didn't I begin to study *earlier*?" How could I? That's all you boys know about things. I had to stay after school for some examples, and after supper, I had to go in to see Mamie's new hat. Her cousin was there who has just arrived from abroad, and she was *so* interesting. She has been all over Europe, and she told us all about the fashions, and what are the very latest styles. *Yes, I am* going to study. (Repeats aloud.) "Events of 1753.—At the time of the breaking out of the war, there was in existence"—mamma, c'n't I have a blue suit trimmed with silver fox fur? It would be just too lovely for anything.—*I am* studying. "There was in existence an organization, known as the Ohio Company, which had obtained from the king of England a grant of land on and near the Ohio river, for the purpose of carrying on the fur trade with the Indians." Frank, won't you take me skating with you next Friday night? That's a good brother. You know mamma won't let me go in the evening without you. It will be *perfectly lovely* on the pond by moonlight and *lots* of the girls are going. Say, mayn't I go with you? "You'll tell me after I learn my lesson." Obliging, upon my word,—*"fur trade with the Indians, and of settling the country. The French having seized three British traders, and also built forts"*—oh, dear! I can't remember anything to-night. I'd like to know the use of such stupid stuff, anyway. What the French and Indians did doesn't concern *me*. Lucy, won't you lend me your new fan to-morrow night? Mamie's cousin brought her one from Paris, and it is just *elegant*. Oh, please, mamma, don't shut the door! I *can't* study if I am shut up here all by myself. I won't talk any more. (Studies quietly, but with frequent glances at the clock.) There, it is ten o'clock, and

my time is up. My head aches *awfully*, and I am just *too* tired for anything. Mamma, can't Frank and I have just one game of checkers? "Time to go to bed." That's what I always hear when I want a little fun. It's nothing but *work, work, dig, dig*, from morning till night, and then half the night. It is *perfectly horrid*!

## Christopher C——.

In the City of Genoa, over the sea,  
In a beautiful land called Italy,  
There lived a sailor called Christopher C——;  
A very wise man for his time was he.

He studied the books, and maps, and charts,  
All that they knew about foreign parts;  
And he said to himself: "There certainly oughter  
Be some more land to balance the water.

"As sure as a gun the earth is round;  
Some day or other a way will be found  
To get to the east by sailing west;  
Why shouldn't I find it as well as the rest?"

The court philosopher shook his head,  
Laughing at all that Christopher said;  
But the Queen of Spain said, "Christopher C——  
Here is some money; go and see."

That is just what he wanted to do,  
And in fourteen hundred and ninety-two  
From the port of Palos one August day  
This Christopher C—— went sailing away.

He sailed and sailed with wind and tide,  
But he never supposed that the sea was so wide,  
And the sailors grumbled, and growled, and cried:  
"We don't believe there's another side.

"O, take us back to our native shore,  
Or we never shall see our wives any more!  
Take us back, O Christopher C——!  
Or we'll tumble you overboard into the sea."

In spite of their threats he wouldn't do it;  
There was land ahead and Christopher knew it.  
They found San Salvador, green and low,  
And the Captain shouted, "I told you so!

"This is the land King Solomon knew,  
Where myrrh, and loes, and spices grew.  
Where gold, and silver and gems are found,  
Plenty as pebbles all over the ground."

They thought they had sailed clear round the ball,  
But it wasn't the other side at all,  
But an island, lying just off a shore  
Nobody had ever seen before.

They planted their flag on a flowery plain,  
To show that the country belonged to Spain;  
But it never once entered Christopher's mind  
That North America lay behind.

Then Christopher C——, he sailed away,  
And said he would come another day;  
But, if he had stayed here long enough,  
We should talk Spanish or some such stuff.

—Young Idea.

## Signs of Spring.

Sound of gusty driving rain  
When we wake at midnight hour,  
Ice-tipped branches on the pane  
Beating music to the show'r.

Crows that caw from steaming woods,  
Robins piping in the glades,  
Buds that from their winter hoods  
Peep and blush like pretty maids.

Grateful odors of damp earth,  
Boist'rous glee of muddy rills,  
Shouting, brawling in their mirth,  
Down the bare flanks of the hills.

Here and there a crocus' head  
Thrusting up to dare the cold,  
While its sisters, warm in bed,  
Stir their coverlids of mould.

Spring is coming; spring is near;  
She is whispered in the air.  
Soon the blythe nymph will be here,  
Shaking blossoms from her hair.

—Selected.



## The Educational Field.



Noah Porter, D.D., LL.D.

Dr. Noah Porter was born in Farmington, Conn., in 1811, and graduated at Yale college in 1831. He then became master of Hopkins grammar school in New Haven and afterward was a tutor in Yale from 1833 to 1835 and it was during this time that he applied himself especially to theology. After this he was pastor in various Congregational churches in New Milford, Conn., and at Springfield, Mass. In 1846 Dr. Porter was appointed professor of moral philosophy and metaphysics at Yale, and in 1871 he succeeded Theodore D. Woolsey as president of Yale college. In 1886 he resigned the presidency, but still continued his professorship. He was very successful during his administration of the affairs of the college. Many of the finest buildings that are now to be seen at the famous university were erected during his term. Elective studies were introduced under Dr. Porter, although his sympathies were with the required course as opposed to the elective system of Harvard, and he was a firm believer in the classics. Among the honors conferred upon him may be mentioned the degree of D.D. from the University of the City of New York, and LL.D. from Edinburgh and from various institutions of learning.

His first literary production was published in 1851 and was entitled "The Educational Systems of the Puritans and Jesuits Compared." As managing editor he supervised the revision of Webster's Dictionary, which appeared in 1864 and 1879, and contributed to the re-casting of the work in 1890 which resulted in the International Dictionary. In 1870 he published "Books and Reading;" in 1871, "American Colleges and the American Public;" in the same year, "The Science of Nature Versus the Science of Man," a review of the philosophical opinions of Herbert Spencer; in 1882, "Evangeline—the Place, the Story, and the Poem;" in 1885, "Elements of Moral Science," and "Life of Bishop Berkeley;" in 1886, "Kant's Ethics, a Critical Exposition," and in 1888, "Fifteen Years in the Chapel of Yale college."

In his later years Dr. Porter was essentially conservative, but it was a conservatism always based on the firmest foundation principles. His work was, like his Puritanic cast of mind, slow, sound, steady, and lasting. His mode of thought was far-seeing and every step of his course was carefully planned before execution. His literary works are said to be "among the most enduring monuments erected by American thought."

### Albert Barnes Watkins, Ph.D.

Dr. Albert Barnes Watkins, widely known in educational circles, died in Albany, N. Y., March 18, 1892.

Dr. Watkins was born in Naples, N. Y., in 1838. He graduated from Amherst college in 1863, and was afterward instructor in Greek in Fairfield seminary, N. Y., for several years. In 1870 he took charge of the collegiate institute in Adams, N. Y., remaining there till 1882. It was during this period that he served on a committee of fifteen to secure legislation in aid of academies. His degree of Doctor of Philosophy was conferred by the Regents of the University of the State of New York in 1874. In 1882 he was president of the State Teachers' Association; and that same year he was appointed, by the Regents, state inspector of teachers'

classes, laboring assiduously for more than two years in reorganizing these classes. In 1884 he was elected assistant secretary of the University of the State of New York. He also presented several papers at the University convocation, among which may be mentioned, "The State and Higher Education" and "The Teaching of Literature in Secondary Schools." He prepared a history of the teachers' training classes for the Regents' historical and statistical record. Dr. Watkins edited the Regents' academic syllabus, published in 1888. His latest literary work was the last edition of this syllabus of the Regents' examinations, which was published in 1881 and which has attracted attention both in this country and abroad.

Secretary Dewey says of him in his official relation as assistant secretary of the Board of Regents, "Dr. Albert Barnes Watkins for the past ten years one of the most faithful and capable officers the university has ever had in its service. All officials of the academies and colleges of the state who have come into frequent personal relations with him will feel the loss not alone of an efficient public officer but also of a personal friend. He will be keenly mourned by the entire university staff, who from daily association have learned to appreciate more fully his rare qualities."

A suitable memorial of his services will be presented at the approaching University convocation and made part of its published proceedings."

A tasteful souvenir of the Comenius celebration at Pasadena, Cal., on March 5, comes to us from Superintendent Will S. Monroe of that city. It is a pretty red lined scrap-book of fine white cardboard containing the program and press notices of the meeting, together with a full text of each paper given at the three hundredth anniversary of this noted reformer.

The commemorative exercises were held at the regular monthly meeting of the Pasadena Teachers' Institute, and the Pasadena teachers dispensed hospitalities to the large number of visitors and delegations present, from nearly every city in southern California. Besides the welcoming smile there was "an elaborate and daintily served luncheon," when each guest was presented with a fine Japanese napkin, upon which was reproduced from an old English cut the picture of Comenius with appropriate inscriptions of the occasion. Beautiful floral decorations by the teachers and pupils made a scene of beauty of the stage and surroundings.

The following is the program of the day's exercises:—

"Thoughts from Comenius," by the Teachers; "Sketch of the Life of Comenius," Principal Caspar W. Hodson; "The Orbis Pictus," Miss Agnes Elliott; "The Brooklyn Celebration," John Dickinson, Throop university. There were papers presented upon the "Influence of Comenius upon Education," by Supt. C. H. Keyes, Riverside; Principal Ira More, state normal school, Los Angeles; Supt. F. A. Molyneux, Pomona; Principal J. H. Hoose, late of Cortland, N. Y., normal school; and Supt. A. N. Plummer, Santa Ana.

A large number of letters were read by Supt. Monroe, from leading educators in this country and Europe as tributes to the memory of Comenius.

Such an occasion as this reflects the highest credit upon Pasadena's superintendent and teachers.

The people of Albany, N. Y., have been deprived of their privilege of selecting school commissioners. This power now rests in the hands of the mayor. The *Journal* (Albany), in a spirit of protest against the change, says: "The schools of Albany enjoy an enviable reputation with educators throughout the state of New York and the United States, as having reached the highest stage of efficiency. This is not the result of a month or a year's growth, but is the fruit of a gradual and constant development, extending through a quarter century under the system which has hitherto prevailed. The records of Albany scholars in the Regents' examinations demonstrate our claim with mathematical certainty and justify the reputation which the schools of the city have secured. In the higher institutions of learning throughout the country the records of Albany students furnish similar evidence of the high level of popular education. It is a serious departure in the educational affairs of Albany; and the only consideration which appeals to the true friend of Albany's school system is the hope that in the coming 26 years the men who have injected partisanship into Albany's educational system may be vindicated by a record as creditable as that which marks the expiring board."

Principal Hovey, of the Newark high school, has arranged the following program of lectures, to be delivered before the various classes of the high school during the present month by Prof. Quinlan: The Principles of the Two Great Political Parties, Leading Events of the Year 1891, Greek History, Chivalry, Roman History, The Victorian Poets, Whittier, Essentials of Good Prose Style, Horace, Scottish Highlands and Lowlands, Italy, The Conspiracy of Catiline, The French Revolution, Charles Lamb. The comprehensiveness of this program will be apparent. The lectures are so arranged as to supplement the class-room work of the various classes. The lecture system was inaugurated less

\*han a year ago, but its efficacy as a factor in the all-around education of the pupils is already established beyond question.

The annual meeting of the Florida Colored State Teachers' Association will be held at Gainesville, April 12-15. T. D. S. Tucker, of Tallahassee, president. The program is crowded with good things. The subjects for discussion indicate thought and a purpose to keep fully abreast of the times in progressive educational work. An excellent meeting may be expected. The announcement of a social picnic at the close of the meeting sounds rather oddly to us with snow on the ground, a March chilliness in the air, and furs in close companionship.

In the Pennsylvania State Teachers' Association last summer it was decided to establish a Wickersham memorial library of pedagogical works at Harrisburg. It was also decided that a suggestion be made to the schools of the state that March 25 be observed as Wickersham day. Miss Elizabeth Lloyd, Newtown Square, Pa., will furnish leaflets containing exercises suitable for the occasion in the schools on that day. The suggestion is eminently appropriate and it is hoped the day will be generally and loyally observed. Dr. Wickersham was the champion of public schools.

Some of the Eastern cities which have separate buildings for manual training purposes are Boston, New York, Chicago, Philadelphia, Brooklyn, Washington, Lowell, Providence, Worcester. The system is in successful operation in these cities: Fall River, Cambridge, Mass.; Wilmington, Del.; Trenton, N. J.; Amsterdam, N. Y.; Berkshire, Mass.; Hyde Park, Mass.; Springfield, Mass.; Paterson, N. J. The city of New Haven started a manual training school in 1884 which has prospered steadily ever since, and there is a prospect of an appropriation of \$50,000 to establish it on a firm foundation and to equip it properly.

Tuskegee (Ala.) institute has now 400 students, \$100,000 worth of land and buildings, and 30 teachers, 14 of them graduates of Hampton. Its annual expenses are about \$30,000, and Gen. S. C. Armstrong, whose judgment is pre-eminently sound, says that "the growth of this school is the noblest and grandest work of any colored man in the land." It is undenominational, out of debt, well managed and organized, and Principal Washington seeks to secure some assistance in the way of a regular fixed annual sum for its permanent support.

President Cook, of the National Educational Association, is very hopeful of a successful meeting at Saratoga this year. He says: "We have in every state a general manager with five assistants working up membership and enthusiasm. Reports from Iowa say they will send 1,000 delegates. Nebraska last year sent 500, and this year the manager says 800 delegates will visit Saratoga. From the states heard from, not counting the New England states, we will have 12,000, and in all not far from 20,000 delegates. Last year 15,000 thronged Toronto, and it is fair to presume that many more will come here.

"There will be ten department meetings and two general meetings daily. The latter will be held in the large hall, one in the morning and the other at night, each day. The program is very exhaustive and is largely made up at present. Withal I believe it to be much stronger than any similar one we have ever issued. Among the speakers will be President C. W. Eliot, of Harvard university; President William Hyde, of Bowdoin; Mrs. Mary Livermore, Miss Frances Willard, Inspector Hughes, of Toronto, who was chairman of the local committee at Toronto last year; A. S. Draper, State Superintendent De Wolff, of Missouri; Hon. J. L. M. Curry, secretary of the Slater fund; State Superintendent Waller, of Pennsylvania; ex-President Chancellor Canfield, of Nebraska; Superintendent Jones, of Indiana; E. O. Vail, of Illinois, editor of the *Intelligence*; ex-President R. B. Hayes, and National Commissioner of Education W. T. Harris. Other prominent educators and political officials have been invited, but it is not known as yet whether they will be present.

"The general indications from all parts of the country are that there will be larger representations from the South, West, and East than ever before. The Southern convention meets at Atlanta a week previous to the meeting here. There will be about two thousand persons in attendance, and they expect to leave Atlanta in special trains and come directly here."

St. Paul teachers who are candidates for permanent appointments are expected to pass an examination upon the history and theory of pedagogy, and to present unqualified certificates of recommendation from the principal of the school in which they last taught, and from the superintendent of schools. This examination is not compulsory. Teachers who fail to pass will not lose their position on that account, and will not be prejudiced in the eyes of the board. Those who do not apply for the examinations at all, while not eligible to permanent appointment, do not lose their positions because of a non-application.

The senate of the University of St. Andrews, the oldest in Scotland, has decided to open to women the university's department of theology, arts, and sciences. One by one they fall into line.

In June, 1890, a girl was graduated from the Union grammar school in Brockton, Mass., and received a diploma. Subsequently she went to work in one of the local factories. The girl is now fifteen years of age. Recently an agent of the state board of factory inspectors discovered that she was graduated when she was but thirteen years of age, and consequently, under the law, the agent told her to get a certificate from the superintendent; but the superintendent refused to give one, as he cannot certify that the girl attended school the required number of weeks during her thirteenth year. The girl has been ordered back to school, although she completed the course as far as the statute contemplates. The classes at the high school are too far advanced for her to enter, and if she goes back to the Union school she must go over the same ground as before with a lot of small children. The authorities say that unless the girl attends school twenty weeks more, they will have her father prosecuted and fined.

The following are some of the salient points of an address recently delivered by Supervisor Robert C. Metcalf, of the Boston schools, before the Norfolk Masters' club. The main idea is "Give the bright boy a chance:"

"Fifty scholars can't study together.

Put the bright children in one class, and the dull ones in another.

The dull child may make the best citizen in the end. He must not be slighted. But it is certainly a great injustice to the bright boy, that he should be kept back in a "class" because that class, or the majority of pupils in it, can go no faster.

Some boys can go through a high or grammar school curriculum in half the time others can do it. Let them do so.

Teachers make a great mistake when they say they must teach for the majority. They should teach for each and every pupil.

Don't put the pupils in one common class. Divide them up into classes according to their ability, their aptitude for study.

Teach a child in school to learn to work and think for himself.

Teach him to use books.

The bright student needs but very little recitation.

There is a great deal of humbug in this putting of so many things into the primary school.

The first three years should be spent in teaching the child how to read a printed page understandingly. To read it so that from it he can glean the thought of the writer.

Take the text-book away from the teacher. If she can't do without it, let her fail. The sooner the better.

Mental arithmetic is not receiving the attention which it should.

Don't teach by memory."

The Alumnae of the New York normal college is an energetic organization, full of beneficent plans for the good of the Alma Mater. It was organized in 1870 and now has 800 members, with an addition of 100 each year from the college. They have a club room in the college in which they have gathered a library of about 4,000 volumes, which are free to the college girls. The librarian is one of the alumnae whose salary of \$600 is paid by the organization. About 300 volumes a day are taken from this library.

There is a free kindergarten, carried on under the auspices of the alumnae, which numbers about 40 children of the class that most need this care and instruction. An annual award of a \$50 gold medal to the best Latin scholar, and a loan fund designed to assist some deserving student to pursue her studies, are among the responsibilities of these hard-working ladies. Three years ago they presented the Wadleigh memorial alcove to the college in memory of a beloved lady principal. In this is an annex library of works on pedagogy and ethics. An Alumnae Shakespeare class is in active operation, led at present by Miss Helen Gray Cone, who occupies the chair of literature at the college. This lady well known in literary circles has issued two books of poems of recognized ability.

This model alumnae replenish their treasury by holding fairs, concerts, lyceum readings, etc., and are sparing no efforts to make them successful. Such a record is high praise for the influence left by any school or college upon its outgoing members.

### Educational Associations.

National Association, Saratoga Springs, July 12-15. E. H. Cook, Flushing, N. Y., Pres. R. W. Stevenson, Wichita, Kan. Sec'y.

Pennsylvania State, Beaver Falls, July 5, 6, 7. Dr. E. O. Lyte, Millersville, Pres., Supt. J. M. Reed, Beaver Falls, Sec'y.

Southern Educational Association, Atlanta, Ga., July 6-8. Solomon Palmer, East Lake, Ala., Pres., Eugene G. Harrell, Raleigh, N. C., Sec'y.

#### SUMMER SCHOOLS.

National Summer School, Glens Falls. Three weeks, beginning July 19.

Martha's Vineyard Summer Institute. Begins July 17.

Callanan Summer School of Methods, Des Moines, Iowa, July 6-31.

Chautauqua Literary and Scientific School, Chautauqua, N. Y. John H.

Vincent, Chancellor, July 30-Aug. 26.

North Texas Summer School, Fort Worth, July.



## Correspondence.

**Editor of THE SCHOOL JOURNAL:**—The tendency is to teach the different branches in a connected manner, as having a relation one with the other. Now it seems to me that history and geography bear a closer relation to each other than any other two branches with which the majority of teachers have to deal. Now, why could not some man or men of ability compile a series of text-books combining these two studies?

I believe that a large proportion of vagueness, and even positive dislike for these branches on the part of some pupils, would be dispelled. But, if the two were embodied in one, in a series of good, practical text-books, far less work in the proper presentation of the subjects, would devolve upon the teacher, and the pupil would then have right before him all the necessary information, without taking up his time and distracting his attention by looking over, in other books, a quantity of matter having no bearing whatever upon the topic then under consideration. The teacher, of course, will be sufficiently interested in teaching the subject to require and to create a desire for investigation on the part of the pupil to the extent of his endeavoring to obtain information other than is given in the one text-book, then in his hands.

Then, too, I believe the student will learn as much about general history, U. S. history and geography, if they are combined in the manner indicated, in a given length of time, as he would about U. S. history and geography studied in separate books.

Then in the matter of supplementary and additional information which the pupil is expected to obtain from the teacher through oral instruction, could not our text-books be so arranged that they might both contain facts worthy of the scholars' complete assimilation, and interesting notes and articles to be read carefully and talked over in the class? Some of our text-books contain matter in addition to text statements but in a too limited amount.

By this means the teacher would have more time to devote to other school-work, instead of being obliged each evening to devote some at least of her time to the planning of this extra work, often in itself of no advancement to her. Then, too, the pupils would have the additional information in such a form that they could reconsider it at the teacher's request, the teacher not being compelled to keep it all in mind in order again to bring up important points contained in it.

Investigation and a desire to know all that he can find out about a subject, are always to be encouraged in a student; but the text-books should contain plenty of information on their respective subjects so that the teacher and pupil may not have to consult other books for too much of their information, that being dependent, however, upon how exhaustively they expect to pursue the study.

Columbus, O.

EARNEST TEACHER.

In your last number, in discussing the services of Supt. Draper you speak of his success in bringing about a uniform system of examinations for teachers. Will you kindly outline this plan in THE JOURNAL?

Con. Barry Co., Mich.

ENOCH ANDREWS.

We hold in high esteem the service of Supt. Draper because he established the system of uniform examinations, which has more than doubled the value of our system of public instruction; in time it will add to those holding professional diplomas from the normal schools enough to make the entire teaching force professional. The time will come in New York when the local officials who employ teachers will no more examine them than they will examine the doctor, the lawyer, or the minister. The plan is simple:

1. The state superintendent selects questions each month and puts them sealed into the hands of the county commissioner, who lays them before applicants.

2. These point to third, second, and first grade certificates; the 3d hold theirs six months; the 2d two years; the 1st five years.

3. Those holding the 3d are expected to advance and hold the 2d; they to advance and hold the 1st.

4. The state superintendent issues questions once each year, and holds in several places examinations for those seeking life diplomas. (The normal schools, ten in number, issue life diplomas. The state superintendent also gives life diplomas to college graduates who have taught three years.)

5. The county commissioners encourage the best of the 1st grade to aim at life diplomas. The examination may be taken in three sections—that is, a part this year, a part in '93, the rest in '94. This is to put the obtaining of a life diploma in the work of all.

It is estimated that there are 4000 professional certificates held in New York state already; this is about one-fifth of the teaching force. So that we think we can almost see the time when none will be employed (except temporarily) but professional teachers. Speed the good day!

As you will remember, "before the war" there were about a thousand banks that afflicted us with paper money; it is worth all that we pay for pensions that "rag" money has disappeared.

Now our paper has a stamp on it that carries value. Cannot the teachers of each state unite upon a plan like the one outlined above so that the certificate they possess will carry a fixed value? The reform will however, begin with the officials who, like Judge Draper, look at education from the point of view of the statesman; the teacher is so prone yet to look at the tithes of "mint and cummin," his multiplication tables and the parsing of his adverbs, that "the weightier matters of the law" are unseen. Cannot you of the progressive state of Michigan bring your scattered elements together and possess unity, professional teaching, and educational strength and dignity? Let Barry county light the watch-fire.

Before Judge Draper unified our elements, we had some professional teachers, but there was no place that looked to making the whole body of teachers such. Now the entire force is in motion; not under violent headway, it is true, but in enough motion to warrant the belief that in time the teachers will "get there." All this we owe to the fact that the state superintendent when he got into office did not hold out one hand for his salary and put the other on the old crank and turn it at the old-time rate. He looked about him and said (apparently), "By God's help I will leave this office better than I find it." These are times of progress, my dear sir; join your excellent state, in which in conducting institutes I met the noblest kind of men and women, to the lead the Empire state has made in education.

If the president or vice-president should die or be unable to perform the duties of the position, who would succeed to the presidency?  
R. W. S.

Pa.

In case of the death or disability of the president and the vice-president, the secretary of state would become acting president; if he could not act, the other members of the cabinet would act in this order; secretary of the treasury, secretary of war, attorney-general, postmaster-general, secretary of the navy, and secretary of the interior. The secretary of agriculture is not in the line of succession, as his office was created after the act fixing the succession.

How low a temperature can be reached?

P. G. D.

The lowest artificial temperature yet produced is  $-220^{\circ}$ ; this was done by artificial means. The temperature of  $-70^{\circ}$  has been noted in the Arctic region. It is believed that the greatest possible cold will be at  $-460^{\circ}$ .

1. Please tell me just how near the school-house the law will allow a saloon to be conducted.  
INQUIRER.

There is nothing in the school law in this state which refers to the location of a saloon, so far as it relates to its proximity to a school-house. There is nothing in the present law to prevent a saloon from being located next to a school-house, and if the present excise bill now before the legislature should become a law, there may be a saloon located within each school-house.

Do you know if it would be possible, to pass an examination for a kindergarten diploma, by letter, and where could I apply? Also could a course be taken, by letter, in a few months? F. M. W.

This cannot be done, because there is so much *doing* in the kindergarten. It will take a year at the least to learn the kindergarten. The lectures are upon educational ideas and go along with the work. Listen to no one who would teach you the kindergarten by letter.

**Editor of THE SCHOOL JOURNAL:**—Referring to your admirable sketch of Professor Proctor, in a recent issue, I feel impelled to narrate an incident of the distinguished lecturer. It was just after one of his popular astronomical discourses in a neighboring city a few years ago, that I had the pleasure of meeting him. I introduced to him at the time a number of teachers, one of whom, a teacher of astronomy, pressed forward with the question, "And now, Professor Proctor, I want to ask you what is the horizontal parallax of the sun?" He replied very quietly without changing the suavity of his manner, "I do not know, madam." The slightly astonished lady indicated that she meant the number of degrees and that her instructor had been disputed on the subject. He interrupted her with "I am very sorry, madam, but really I do not know. I would tell you if I could." There was no embarrassment at his ignorance, no reference to learned works, no assumption that he knew a good deal about the general subject and that the parallax in question was probably so and so. He wished her simply to understand that he did not know. He left her to draw her own inferences. Could she draw the inference that she showed more ignorance than he?

M. H. P.

Possessing just those powers to purify the blood, creates an appetite and build up the system, which nearly everybody needs. Hood's Sarsaparilla is the ideal Spring Medicine.



## Important Events, &c.

Selected from OUR TIMES, published by E. L. Kellogg & Co.: price, 10c. a year.

### News Summary.

**MARCH 10.**—The commercial convention between Spain and the United States approved by the Spanish senate.—Spanish anarchists acquitted.

**MARCH 11.**—Archbishop Ireland to be made a cardinal.—An explosion of firedamp in a mine near Charleroi, Belgium, causes the death of 160 miners.—Crop prospects injured in the Northwest by the storms.

**MARCH 13.**—An earthquake shock in California.

**MARCH 14.**—Two men arrested in Constantinople, charged with the intention of assassinating the sultan.—A new Chilean cabinet formed.—Heavy flood in England, Spain, and Italy.—The Australian expedition, sent out in April 1891, to explore the interior and to search for relics of Reichardt disbanded. A fresh start will soon be made.

**MARCH 15.**—Death of Viscount Hampden, late speaker of the British house of commons.

**MARCH 16.**—American pork seized in France.—Emperor William recovering from illness.

### DISSATISFIED WITH RECIPROCITY.

The people of Cuba seem to be considerably disappointed with the new reciprocity treaty with the United States. Cuba receives large quantities of potatoes, onions, etc., from the United States free of duty, while the people of the United States have to pay on the same articles, products of that island, 70 cents a barrel of potatoes and 38 cents a crate of fifty pounds of onions. The injustice of this, together with the disastrous results to the millers in Spain from the reduction of the former duty on American flour of \$5 a bag of 203 pounds to \$1 since January 1, 1892, has caused strong feeling against the treaty, which can result in only one way—the amending of the same within the present year.

### FACTS ABOUT COLUMBUS.

There is great interest in everything connected with Columbus just now, on account of the four hundredth anniversary of the discovery of America which will occur next October. President Adams, of Cornell university, has just given a lecture on Columbus in which the great discoverer is described as well built, and above the medium height; he had very red hair, a long countenance, a Roman nose, and a severe expression. In regard to the place where Columbus first landed, the spot is now believed to be on the eastern side of Watling island, one of the Bahamas. This conclusion has been arrived at from the topographical description given by Columbus of the place, and from the probability of the vessels having drifted round to the eastern side during the four or five hours of the night that land was first seen when they shortened sail while waiting for morning. It is thought that the remains of Columbus still lie in the cathedral in San Domingo. It is now believed that the body, purporting to be that of Columbus, that was removed from there to Havana, was not his.

### THE WORK IN CONGRESS.

**PURE FOOD BILL.**—What is known as Paddock's pure food bill, which was passed by the Senate, has not been very favorably criticized by manufacturing and wholesale druggists. They say it will only make an excuse for the creation of another bureau and of a host of offices. It will also put unnecessary restrictions on their business.

**FREE WOOL.**—In the discussion on the free wool bill in the House one member said that if "the duties which the government collected on imported wool and woolen goods should be aggregated with the enhanced cost of American wool and woolen goods, it would appear that the American people in a single year, on the pretext of protection to the farmer, had paid into the treasury and to the manufacturers a sum equal to the value of every sheep in the United States." Another one said that the time was past when there was need of extravagant tariffs. He favored a tariff policy by which the financial condition of the government could be so arranged that we should not be forever collecting more than we spent—collecting for one purpose and expending for another.

**MILITARY RECORDS.**—Among the bills passed by the Senate was one providing for the collection, custody, and arrangement of the military records of the American Revolution.

**NEW REVENUE CUTTERS.**—The House committee on interstate and foreign commerce considered the Senate bill providing for the construction of two revenue cutters for the Pacific coast and

two for the great lakes. It was decided to amend the bill so as to provide for one cutter for the coast and one for the lakes, and so amended the bill will be reported to the House.

### THE COST OF THE GOVERNMENT.

Mr. Edward Atkinson, the eminent writer on political economy, has just published a letter on taxation and the expenses of government in which he gives some very instructive figures. He says that a certain part of every person's work must be devoted to the support of the government, and since the revenues are derived mainly from the taxation of articles of common consumption, therefore the cost of government is put upon the people in proportion to their consumption of the subjects of taxation rather than in proportion to their personal incomes. The expenses of the U. S. government for 1891 was 458,544,233.03, which sum represents the work of 764,257 men for one year of 300 working days at \$2 per day each. In other words, it takes the full year's work of 765,000 men to support the president, cabinet, officials, legislatures, judges, tax-gatherers, postmasters, soldiers, sailors and others who performed the actual work of the government, including also the pensioners and the claim agents.

In addition to the above items, the government next year will tax the people \$16,000 to pay sugar bounties, and \$80,000 for the silver to be stored in the treasury vaults. About five per cent. of the whole energy of the people is expended in supporting the government.

**NEW YORK'S POPULATION.**—The recent enumeration makes the population of the state of New York 6,479,730, an increase of 481,877 over the federal census of 1890. According to the state census New York city has 1,795,840, a gain of 280,539 over the federal census of two years ago; Kings county (including Brooklyn), 988,077, a gain of 149,530; and Erie county 344,703, a gain of 21,732. There is a decrease of 20,271, in interior counties from their total according to the federal census.

**LORD TENNYSON'S SUCCESSFUL PLAY.**—The English laureate's new play, "The Foresters," was successfully presented at Daly's theater in New York. It tells again in a delightful way the story of Robin Hood and his merry men that every person who reads at all reads at ten years in the nursery books and a little later in "Ivanhoe." The story is related in charming antique prose, interspersed with beautiful songs which Sir Arthur Sullivan has set to music. Among the characters are Richard Cœur de Lion and the scenery shows medieval castles and other objects of the olden time. As one critic said, "The play is full of exquisite woodland pictures, melodious poetry, and the pageantry of a storied age."

**THE BELGIAN EXPEDITION IN AFRICA.**—Advices have been received from Africa that the Belgian expedition under Capt. Hinck reached the west coast of Lake Tanganyika by following the course of the Congo. The Arab chiefs along the route prepared to attack the expedition, but, getting scared, disbanded their levies and stopped their slave raids.

**SPAIN'S EXPOSITION.**—A meeting was held at Madrid of the representatives of the principal Central and South American republics and of the United States to complete the program for the Christopher Columbus Exhibition.

**ANARCHISTS IN PARIS.**—The Paris police have been searching the houses of anarchists and have found a large quantity of dynamite, besides infernal machines and other things. It is thought they intended to blow up the building occupied by the Spanish minister.

**AN UNDERGROUND RIVER.**—It is reported that a river has been discovered under the city of Plainfield, N. J. The city gets its water supply from driven wells, and lately the pumping engines have been unable to lower the water in them. In spite of the fact that the company supplied each day many hundreds of thousands of gallons to consumers, and poured to waste from its mains into brooks 4,000,000 gallons each day, there was no diminution of the supply, and further investigation established the fact that the wells actually tap a vast underground river flowing from northeast to southwest directly under the city, many feet below. Soundings were taken, and other tests made, and it is now announced by competent engineers that a stream of extraordinary extent actually exists under the city. It has a swift current, and sweeps over a bed of beautifully white, smooth pebbles.

**STRIKE OF ENGLISH MINERS.**—A strike of 350,000 miners in England and Wales took place. So scanty became the supply of coal that many factories were closed and the leading railroads suspended running some of their trains. A compromise having been made later the miners agreed to go to work.

## Of Special Interest to Pupils.

**WHAT IRRIGATION WOULD DO.**—The arid region of the United States covers an area of 1,500 miles in its widest part, from east to west, and 1,000 miles from north to south. It embraces the area between the 100th meridian and the Coast range, and from the British possessions on the north to Mexico on the south. This space contains over 1,000,000 square miles—one-third of the area of the United States, excluding Alaska—equal to more than 600,000,000 acres. All of Arizona, New Mexico, Utah, Wyoming, Idaho, Colorado, and Nevada, and portions of California, Oregon, Washington, Texas, Kansas, Nebraska, North and South Dakota, and Montana lie within this belt. It is estimated in the report for the year ending June 30, 1891, by the secretary of the interior, that 130,000,000 acres, about equal in area to the states of Ohio, Indiana and Illinois, that are now desert may be redeemed by irrigation so as to produce the cereals, fruits, and garden products possible in the climate where the lands are located.

**IMPORTANT CITIES IN THE U. S.**—In the United States there are 165 cities having a population of 20,000 or more, whose total population is about 15,000,000. About 10,000,000 reside in 28 cities having more than 100,000 population and about 5,000,000 in four cities having more than 1,000,000 each. Massachusetts has more of these cities than any other state—31; New York comes next with 19, and then Pennsylvania with 15; Ohio, 10; Illinois and New Jersey, 7 each; Indiana, Iowa, and Michigan, 6 each; Texas and Connecticut, 5 each; Tennessee, Georgia, Kentucky, Missouri, and California, 4 each; Virginia, Rhode Island, Alabama, Kansas, Minnesota, and Washington, 3 each; Colorado, Nebraska and Maine, 2 each; and Arkansas, Delaware, Louisiana, Maryland, New Hampshire, North Carolina, Oregon, South Carolina, Utah, and West Virginia, 1 each. Arizona, Florida, Idaho, Indian territory, Mississippi, Montana, Nevada, New Mexico, North Dakota, Oklahoma, South Dakota, Vermont, and Wyoming contain no cities having as much as 20,000 population. The District of Columbia amounts to but little in population outside of the city of Washington.

**DISAPPEARANCE OF FLORIDA'S LAKES.**—Every year Florida witnesses the sudden disappearance of some of her beautiful lakes, the latest being that of Lake Iamonia, which is perhaps three miles wide and ten miles long, lying about three miles north of Tallahassee, the capital. A few days ago, it was observed that the water in the lake was rapidly lowering, and in a short while it had completely disappeared, excepting one or two holes near the center, through which it passed out. Geologists claim that the cause of this is that the underground of Florida is a complete reticular of rivers and smaller streams which are so near the surface of the earth that some of the larger streams passing under lakes renders the strength of the soil separating them insufficient to bear up the weight of the lake, and gives way, letting the water in the lake pass off through the unseen river. Cases like this are becoming so common that one feels a little doubtful, when he glides out on one of Florida's calm sheets of water, as to whether he will return as he departed, or walk back on almost dry land, over which he had only a few minutes before gently rowed his skiff.

## New Books.

Hon. John T. Prince, of the Massachusetts board of education has written a book entitled *Methods in the Schools of Germany* which gives some wide observations of the educational institutions in that country. The work gives a general idea of the organization of the schools and such a view of their inner workings as may be helpful to teachers and school officers. An account of the work in normal, high, private, industrial, and elementary schools is given and very interesting matter relating to elementary science and observation lessons. Reading, arithmetic, geography, language, and manual training are treated in the work and the last chapter is a comparison of the merits of German and American schools. The information regarding statistics and organization have been derived from many sources and the authorities are given. The marginal notes will be of special value to members of normal schools and reading circles as well as to the general reader. There are many points about the German schools that American teachers may profitably study, and Mr. Prince has done the work of presenting them thoroughly and conscientiously, and from the standpoint of an enlightened and progressive educator. (Lee & Shepard, Boston.)

Students and teachers who have proved the usefulness of E. Aubert's *Colloquial French Drill* will be pleased to learn that a second part has just been published. It is composed of a variety of exercises designed for practical instruction in French of a higher grade than those contained in Part I. There are four different series of them. The first contains twelve lessons of subject-matter, to be used in reading, translating, and colloquial practice. The second series comprises a list of thirty verbs which enter in the composition of a large number of familiar idioms and popular proverbs. The third series comprises fifty proverbs, proverbial phrases, and peculiar words, the origin of which is more or less known. The fourth and last series is designed as a help to pronunciation, and will enable the young student to steer clear of many doubts and mistakes. (Henry Holt & Co., New York. Teachers' price, 65 cents.)

The third volume of the *Elementary Science Lessons*, by W. Hewitt, B.Sc., science demonstrator for the Liverpool school board, is intended for use during the third year of the course. The series of lessons in this book are drawn up in similar lines to the first and second series, but are somewhat more advanced and less general in character. The objects treated include camphor, sugar, treacle, sealing wax, sandstone, glass, clay, oil, quicksilver, coal, gases, ice, water, steam, etc. The children are required to observe and test the qualities of objects, and to describe them. Directions are given under each subject for experiments, in which the apparatus required is very simple. Many teachers will hail these books with pleasure, as they furnish very desirable help for those engaged in teaching elementary science. (Longmans, Green & Co., London and New York. 50 cents.)

The great importance that electricity is assuming in the arts and industries renders a wider understanding of the subject necessary. It is a difficult subject, however, and in order to successfully pursue it in the schools and keep up the pupils' interest in it,

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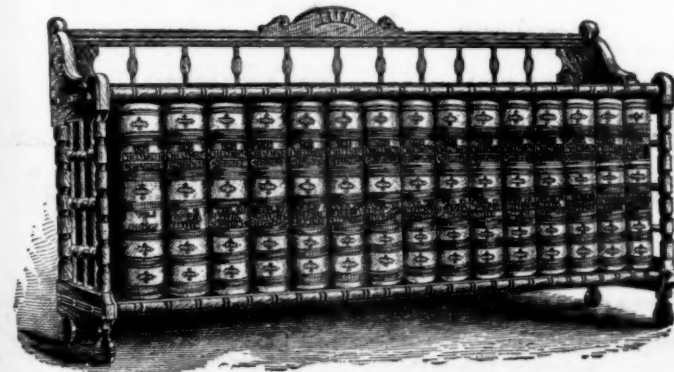
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it needs greatly to be simplified. *A First Book of Electricity and Magnetism*, by W. Perren Maycock, M. Inst. E. E., a London teacher and lecturer on electricity, seems admirably fitted for this purpose. Ancient phraseology is discarded, the language is plain, and the information conveyed is fully up to the times. The author has been especially successful in defining electrical terms and describing simple experiments. His questions will call the attention to the main points to be remembered. A few ruled pages are added in the back part for notes. (Macmillan & Co., New York. 60 cents.)

A little book entitled *Electric Toy Making for Amateurs* has been written by T. O'Connor Sloane, widely known as the author of several volumes on electricity, etc., and as a lecturer on physics. The theme of the book is the methods of applying electricity to simple constructions within the reach and scope of amateurs. The author has therefore described batteries, permanent magnets, electro-magnets, electric motors, etc., a knowledge of which forms the foundation for the construction of the many things that come under the head of electric toys. Included in these are the tolling bell, the vibrating bell, the safe protector, the electric dancer, the magic dancer, and many others. In fact, there is no end to the applications that the ingenious person may find for electricity. We have no doubt boys will take eagerly to this little book and with great profit, for they will at the same time reap amusement, learn to make something, and acquire a knowledge of the elementary principles of this important branch of science. The author makes everything very plain by verbal and pictorial descriptions. (Norman W. Henley & Co., 150 Nassau street, New York. \$1.00.)

An entertaining collection of selections in prose and poetry is found in *Brown's Popular Speaker No. 1*. The first one is a part of the celebrated speech on "The New South" by that lamented patriot, Henry W. Grady. Then there are many other "pieces to speak" for those who wish to shine at school exhibitions or on other occasions. They are both old and new, for it is plain that the intrinsic merit of the production, and its suitability for declamation, and not the reputation of the author, have been considered in making up the list. It is a good book to have for those interested in getting up entertainments. (I. H. Brown & Co., St. Louis. 25 cents.)

It is gratifying to see that much more attention is being paid in the schools to-day to the study of American history, and as a consequence there are more and better text-books on the subject. One of the latest is a paper-covered volume, twelve by eight and a half inches, *Charts of The History and Government of the United States*, by Wm. M. Graybill, M. A., and Theo. J. Wool, A. B. Among the subjects treated are the settlement of the colonies, the intercolonial wars, the Revolutionary war, the war of 1812, the Mexican war, the Civil war, the administrations, the supreme court, and the government of the United States. There is also a chart of the government of the state of Virginia. The events are selected with care and well arranged. The book might be used with great profit as a syllabus in studying the history of our country. (Address the authors at Portsmouth, Va.)

We have examined some business forms published by Thomas May Peirce, principal of Peirce's College of Business and Shorthand, Record building, Philadelphia. They illustrate about all the important business transactions. There are capital and small

letters in various forms, sentences, business abbreviations, bank checks, promissory notes of various states, demand and other notes, bills of exchange, receipts, accounts, etc. If used in the school-room they early familiarize the pupil with business forms. Many teachers in various parts of the country have seen their usefulness and provided their schools with them.

As the teaching in the kindergarten and the primary school should be a continuation of the home training so the method of the college should be a continuation of that in the grammar school, high school, and academy. When the pupil shall have arrived at the collegiate institution he should be more or less acquainted with the mode of investigation he is to pursue there. *A Reference History of the United States*, by Hannah A. Davidson, M. A., embodies a plan for introducing the study of this subject in high schools and academies by the use of many books instead of one. In addition to the discipline the pupil acquires by such a course, and the training in methods of work, he acquires a sufficient knowledge of facts to form the basis of his future investigations in constitutional history, politics, etc. Of course a fair-sized library is necessary to carry out the plan, but the pupil is not required to read all the books referred to. We believe that more enthusiasm would be aroused by this plan than by any other. One very desirable result would certainly follow from it,—the familiarizing of the student with the best historical works. The book is one of the best helps to historical study that we have recently seen. In the appendices are the articles of confederation, the treaty of 1781, Lincoln's inaugural addresses, etc. (Ginn & Co., Boston. 90 cents.)

A book that will be found fascinating French reading is *Episodes From Monte Christo*, edited with notes, by D. B. Kitchin, M. A. It is one of a series of episodes from modern French authors, edited for the use of schools with suitable notes and introductions. The aim of the series is to give stories that are simple and interesting and to make each volume, whilst continuous enough to sustain interest, of no greater length than can be finished in the ordinary work of a term or two. The story of the captivity of Edward Dantes, contained in this volume, is one of the most complete, as it is one of the most dramatic episodes to be found in the magic pages of the elder Dumas. (Longmans, Green & Co., London and New York. 40 cents.)

There is instruction and amusement for both old and young in fairy tales. Therefore there will be a warm welcome for *French Fairy Tales*, prepared by Edward S. Joynes, M. A., for Heath's Modern Language series. They are classic French and hold the same place in that literature that Grimm's and Andersen's do in the literatures of northern nations. The larger number of the tales are by Perrault, but there are others by Mme. D'Aulnoy and Mme. Leprince de Beaumont. There are also notes, a vocabulary, and a table of irregular verbs. (D. C. Heath & Co., Boston. 35 cents.)

One of the latest books in Heath's Modern Language series is Hillern's *Hober als die Kirche*, edited with notes, by S. Willard Clary, formerly instructor in German, University of Michigan. Apart from the interest in the story and its value as a literary work, its reading will do much to familiarize the student with the German language. (D. C. Heath & Co., Boston. 15 cents.)

(For Literary Notes and Magazines see narrow column on page 325.)



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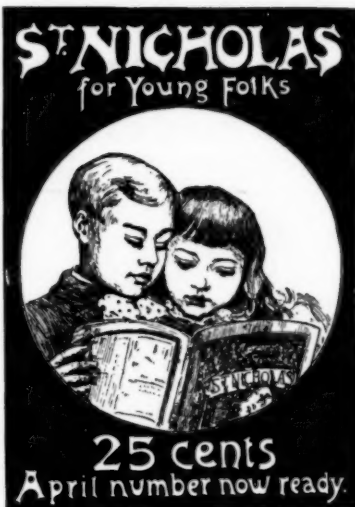
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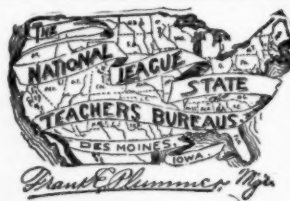
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